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CLAIMS

1. A method for producing a cordierite honeycomb structure comprising the step of firing a honeycomb formed  
5 body, the step comprising control of a temperature rise rate from 1200°C to 1250°C to be 40°C/hr or more, from 1250°C to 1300°C to be 2 to 40°C/hr, and from 1300°C to 1400°C to be 40°C/hr or more.
- 10 2. A method for producing a honeycomb structure according to Claim 1, wherein a honeycomb structure having a porosity of 50 to 70%, a mean pore diameter of 15 to 30  $\mu\text{m}$ , and difference in mean pore diameter between in a central portion and in an outer peripheral portion is 5  $\mu\text{m}$  or less  
15 is produced.
3. A method for producing a honeycomb structure according to Claim 1 or 2, wherein a honeycomb structure having a diameter of 100 mm or more and a length of 100 mm or more is  
20 produced.
4. A method for producing a honeycomb structure according to any one of Claims 1 to 3, wherein a honeycomb structure having a thermal expansion coefficient of  $1.0 \times 10^{-6}/^{\circ}\text{C}$  or  
25 less in each of the central portion and the outer peripheral portion is produced.
5. A method for producing a honeycomb structure according to any one of Claims 1 to 4, wherein a honeycomb structure

having an A-axis compression strength of 1.5 MPa or more in each of the central portion and the outer peripheral portion is produced.

- 5 6. A method for producing a honeycomb structure according to any one of Claims 1 to 5, wherein a honeycomb structure having an isostatic strength of 1.0 MPa or more is produced.

7. A method for producing a honeycomb structure according to any one of Claims 1 to 6, wherein firing is performed after inserting slurry for plugging into the formed body under pressure.

8. A honeycomb structure made of cordierite and having a porosity of 50 to 70%, a mean pore diameter of 15 to 30  $\mu\text{m}$ , a difference in a mean pore diameter of 5  $\mu\text{m}$  or less between in the central portion and in the outer peripheral portion, a thermal expansion coefficient of  $1.0 \times 10^{-6}/^{\circ}\text{C}$  or less in each of the central portion and the outer peripheral portion, and an A-axis compression strength of 1.5 MPa or more in each of the central portion and the outer peripheral portion.

9. A honeycomb structure according to Claim 8, which has an isostatic strength of 1.0 MPa or more.